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DOES THE FUTURE OF SMALL EUROPEAN FINANCIAL ENTITIES LIE IN A STRATEGY OF MERGERS? THE SPANISH CASE

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1 — Introduction

The efficient channelling of funds in the financial system, from holders of surpluses to deficits can be carried out directly via financial markets or indirectly via the transfer of surpluses held by banking institutions. In Spain, by banking institutions we understand both banks and savings banks. The two channelling processes (direct and indirect) differentiate the Spanish financial system from that of some other European countries as Spain employs the indirect method i. e. channelling funds from banks.

In those countries where banks are the principal source of business financing, the financial systems tend to be less developed. Businesses are generally of a small to medium size with a limited number of shareholders and with a marked dependency on banks. Nevertheless, the advantage of this route is the amount of information available on businesses, enabling investors to take safer and more effective decisions with respect to saving or investing.

On the other hand, in countries that are oriented towards financial markets, only that information that is made public is available and data regarding the management of businesses is lacking as this information would suppose higher costs. When enterprises expand, the number of their shareholders increases which in turn diminishes their interest in the enterprises. Such financial systems tend to be considered as more developed and reduces companies' dependence on banks. In fact, sometimes banks come to depend on companies.

Spain's economy, predominately oriented towards banks, witnessed a decline in the nineteen-eighties and an absence of new banking institutions. This decade also saw the liberalisation of barriers to the entry of foreign banks and a reorganisation of savings banks; widening their traditional geographic framework and a more competitive outlook. The net result was a redistribution of the traditional functions of the banks and a greater range of financial products for clients both in the public and private sectors. A process of financial deregulation commenced promoting a greater dependence on securities markets and less on credit entities, the latter losing some of their market share in the area of savings and loans. For these reasons, the banks must take on a role of portfolio promoter instead of their traditional activity as intermediary.

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Furthermore if we take into account the entry of Spain in the European Union in addition to the greater number of financial entities, financial products and services, we can clearly see that structural changes to banks and savings banks are necessary if they are to compete at an international scale.

Competition has obliged existing banks and savings banks in Spain to modify their strategies and increase in size, to be stronger, to offer new products and to open new markets with a degree of competitiveness akin to European financial institutions.

In broad terms what occurs are cycles of consolidation and absorption to take advantage of potential synergy, eliminating duplicities in an attempt to increase efficiency and market shares. In countries such as Japan and USA these are frequent processes in spite of the large size of most of their financial institutions. In Europe and Spain where financial entities are markedly smaller, mergers are necessary.

In the epigraph 2 is exposed, brevity, the evolution of the savings bank role in the Spanish financial economy, for in the epigraph 3 comment the utilisation of ratios, grouped by categories, as middle to analyse the consequences of the processes of savings bank mergers in Spain in the triennium 1990-92, as previous analysis to the exposition in epigraph 4 of the methodology followed for the obtaining of two regression models that serve as predictors of mergers plans future results. In the following epigraph we applied the models obtained to the Galicia savings bank, ending this work with our conclusions over this results.

2 — Evolution of the savings banks

Savings banks first appeared in Spain in 1834, conceived of as non-profit making entities and devoted to the administration of saving and deposit accounts. After discounting general costs and expenses, surplus capital was invested in projects of a social and beneficial nature.

From their earliest days savings banks have had to adept to prevailing economic and social conditions, culminating in Spain's entrance in the EU.

Originally savings banks operated in a limited geographical framework offering their financial services to small investors within their area of influence and having little contact with the entrepreneurial sector. The ownership of savings banks differs to that of banks as they are owned by public bodies of a provincial or local character.

The liberalisation of the Spanish financial system, as mentioned in the previous section, has obliged saving banks to adapt further to this new situation. Among the changes was the removal of the territoriality principle, allowing savings banks to operate outside their customary area (local) and act in free competition with banks, forcing them to reduce costs and review their pricing policies in order to increase their competitiveness.

This growth process obliged savings banks to merge and from 1989 to 1995 their number fell from 76 to 50 due to either mergers or acquisitions. The organisational structure of these entities at a national level is governed by the

Federation of Spanish Savings Banks (CECA) whose role is to coordinate and homogenise the activities of their members.

In our opinion mergers must be carried out bearing in mind the original principles of the savings banks. They are similar to traditional banks regarding their administration of assets and liabilities. Where they differ to traditional banks that they can be considered as trusts whose trustees are public bodies or local political administrations. Furthermore their primary duty is to fund socio-economic projects of a local nature.

Table 1 below, with three main elements: banks, savings banks and credit cooperatives shows the structure of Spain's financial system in absolute terms, while in table 2 those data are presented as percentages.

TABLE 1

Structure of the Spanish financial economy / by types of institution and in 1,000,000 pesetas)

	1992			1993			1994			1995		
	B	SB	CC	B	SB	CC	B	SB	CC	B	SB	CC
Credit system	*11 807*	*7 646*	*947*	*15 874*	*8 315*	*1 224*	*15 026*	*7 321*	*1 091*	*15 591*	*7 642*	*1 269*
General Government	*7 005*	*5 796*	*209*	*8 907*	*5 553*	*208*	*12 421*	*7 922*	*449*	*13 499*	*8 943*	*533*
Loans	1 585	1 392	50	1 806	1 544	58	3 565	1 925	92	3 970	2 165	96
Securities	5 420	4 404	159	7 101	4 009	150	8 856	5 997	357	9 529	6 778	437
Other resident sectors	*24 333*	*14 149*	*1 271*	*23 792*	*15 278*	*1 375*	*25 627*	*16 875*	*1 593*	*26 863*	*18 346*	*1 865*
Loans	22 413	13 026	1 246	22 150	14 100	1 349	23 938	15 683	1 556	25 135	16 973	1 812
Securities	1 920	1 123	25	1 642	1 178	26	1 689	1 192	37	1 729	1 373	53
External sector	*6 777*	*1 047*	*14*	*14 196*	*2 288*	*26*	*12 245*	*2 286*	*31*	*14 906*	*2 815*	*12*
Unsectorized transactions	*3 606*	*2 148*	*147*	*3 915*	*2 220*	*152*	*5 072*	*2 536*	*189*	*5 096*	*2 627*	*214*
Non-financial accounts and welfare fund assets	1 421	1 223	83	1 492	1 305	96	1 584	1 437	106	1 662	1 526	115
Accruals and accounts receivable	2 185	925	64	2 493	915	56	3 488	1 099	83	3 434	1 100	99
Assets and liabilities	**53 528**	**30 786**	**2 588**	**66 684**	**33 654**	**2 985**	**70 391**	**36 940**	**3 353**	**75 956**	**40 372**	**3 893**
Credit system	*12 491*	*3 255*	*127*	*20 307*	*3 038*	*151*	*20 445*	*3 630*	*195*	*21 934*	*4 181*	*220*
General Governments	*1 682*	*929*	*63*	*1 746*	*840*	*60*	*1 755*	*869*	*64*	*1 963*	*897*	*80*
Other resident sectors	*23 180*	*21 807*	*2 029*	*24 855*	*24 533*	*2 354*	*26 950*	*27 054*	*2 626*	*30 640*	*29 524*	*3 058*
Deposits	17 880	17 538	1 914	19 055	19 858	2 194	19 658	21 921	2 481	21 025	23 303	2 774
Repo sales and other creditors	5 129	3 930	115	5 480	4 192	160	5 894	4 616	145	8 298	5 538	283
Securities	171	339		320	483		1 398	517		1 316	683	
External sector	*8 535*	*804*	*15*	*11 327*	*961*	*20*	*12 182*	*1 036*	*23*	*12 177*	*1 060*	*26*
Unsectorized transactions	*7 640*	*3 991*	*354*	*8 449*	*4 282*	*400*	*9 059*	*4 351*	*445*	*9 242*	*4 708*	*509*
Capital accounts and welfare fund liabilities	5 941	3 103	302	6 368	3 426	348	6 940	3 604	396	6 808	3 803	440
Accruals and accounts payable	1 699	888	52	2 081	856	52	2 119	747	49	2 434	905	69

B = Banks.
SB = Savings banks.
CC = Credit cooperative.

Source: Bank of Spain statistical bulletin.

TABLE 2

Structure of the Spanish financial economy / by types of institution and in relative percentage weights)

	1992			1993			1994			1995		
	B	SB	CC	B	SB	CC	B	SB	CC	B	SB	CC
Credit system	*57,9*	*37,5*	*4,6*	*62,5*	*32,5*	*4,8*	*64,1*	*31,1*	*4,7*	*63,6*	*31,2*	*5,2*
General Government	*53,8*	*44,6*	*1,6*	*60,7*	*37,9*	*1,4*	*59,7*	*38,1*	*2,2*	*58,8*	*38,9*	*2,3*
Loans	52,4	46,0	1,7	53,0	45,3	1,7	63,9	34,5	1,6	63,7	34,7	1,5
Securities	54,3	44,1	1,6	63,1	35,6	1,3	58,2	39,4	2,3	56,9	40,5	2,6
Other resident sectors	*61,2*	*35,6*	*3,2*	*58,8*	*37,8*	*3,4*	*58,1*	*38,3*	*3,6*	*57,1*	*39,0*	*4,0*
Loans	61,1	35,6	3,4	58,9	37,5	3,6	58,1	38,1	3,8	57,2	38,6	4,1
Securities	62,6	36,6	0,8	57,7	41,4	0,9	57,9	40,8	1,3	54,8	43,5	1,7
External sector	*86,5*	*13,4*	*0,2*	*86,0*	*13,9*	*0,2*	*84,1*	*15,7*	*0,2*	*84,1*	*15,9*	*0,0*
Unsectorized transactions	*61,1*	*36,4*	*2,5*	*62,3*	*35,3*	*2,4*	*65,1*	*32,5*	*2,4*	*64,2*	*33,1*	*2,7*
Non-financial accounts and welfare fund assets	52,1	44,8	3,0	51,6	45,1	3,3	50,7	46,0	3,4	50,3	46,2	3,5
Accruals and accounts receivable	68,8	29,1	2,0	72,0	26,4	1,6	74,7	23,5	1,8	74,1	23,7	2,1
Assets and liabilities	**61,6**	**35,4**	**3,0**	**64,5**	**32,6**	**2,9**	**63,6**	**33,4**	**3,0**	**63,2**	**33,6**	**3,2**
Credit system	*78,7*	*20,5*	*0,8*	*86,4*	*12,9*	*0,6*	*84,2*	*15,0*	*0,8*	*83,9*	*15,9*	*0,8*
General Governments	*62,9*	*34,7*	*2,4*	*66,0*	*31,7*	*2,3*	*65,3*	*32,3*	*2,4*	*66,8*	*30,5*	*2,7*
Other resident sectors	*49,3*	*46,4*	*4,3*	*48,0*	*47,4*	*4,5*	*47,6*	*47,8*	*4,6*	*48,5*	*46,7*	*4,8*
Deposits	47,9	47,0	5,1	46,4	48,3	5,3	44,6	49,8	5,6	44,6	49,5	5,9
Repo sales and other creditors	55,9	42,8	1,3	55,7	42,6	1,6	55,3	43,3	1,4	58,8	39,2	2,0
Securities	33,5	66,5	0,3	39,97	60,1	0,0	73,0	27,0	0,0	65,8	34,2	0,0
External sector	*91,2*	*8,6*	*0,2*	*92,0*	*7,8*	*0,2*	*92.,0*	*7,8*	*0,2*	*91,8*	*8,0*	*0,2*
Unsectorized transactions	*63,7*	*33,3*	*3,0*	*64,3*	*32,6*	*3,0*	*65,4*	*31,4*	*3,2*	*63,9*	*32,6*	*3,5*
Capital accounts and welfare fund liabilities	63,6	33,2	3,2	62,8	33,8	3,4	63,4	32,9	3,6	61,6	34,4	4,0
Accruals and accounts payable	64,4	33,6	2,0	69,6	28,6	1,7	72,7	25,6	1,7	71,4	26,6	2,0

B = Banks.
SB = Savings banks.
CC = Credit cooperative.

Source: Bank of Spain statistical bulletin.

3 — The merger processes of the triennium 90-92

As previously mentioned savings bank mergers have became a significant phenomena in the 1980's and 1990's. In the triennium 90-92 eleven mergers took place.

In earlier studies ([1]) we have examined the repercussions of these mergers on key variables that define the behaviour of the consolidated entities, to discover the main features that have justified the mergers. To do this we analysed the mergers occurring over the period 90-92 (28 entities merged to form 10 new entities), the period during which most mergers took place, thus allowing a homogenous analysis, over a single time span and with the same economic conditions in force, of the variables involved in the merger processes.

For this analysis, in addition to internal reports, balance and result accounts have been employed to calculate those ratios, grouped into six categories can be considered as determinant for the success or failure of a merger ([2]). In this way it was discovered that, with reference to number of personnel, a positive result was obtained, in spite of the fact that this variable can be influenced by non-economic factors such as agreements between unions and the management on the maintenance of surplus staff. Ratios of profitability, in spite of manifesting a variable behaviour, have not been prejudiced after a merger. Those ratios relating to financial costs, tended to be variable (possibly due to monetary policies in effect at that time), but can be considered as positive. The analysis of management ratios manifested a variable behaviour, but not in a negative sense. No conclusion was arrived at regarding structural ratios as these are considered as irrelevant to a merger process. Finally, product ratios were favourably affected following those mergers that were analysed.

The overall conclusion drawn was that the merges that took place in the period under study produced positive results and therefore it would be of interest to study the current situation of Galicia savings banks and the utility of further mergers, bearing in mind that Galicia represents the a typical peripheral region of the European Union ([3]).

([1]) Pisón et al. (1996).

([2]) Ratio 1 = Profit for the year / Number of personnel.
Ratio 2 = Foreign resources / Number of personnel.
Ratio 3 = Capital and Reserves (own resources) / Foreign resources.
Ratio 4 = Profit for the year / Capital and reserves.
Ratio 5 = Profit for the year / Foreign resources.
Ratio 6 = Prom for the year / Total resources.
Ratio 7 = Financial costs / Foreign resources.
Ratio 8 = Financial costs / Total resources.
Ratio 9 = Financial costs / Operating Incomes.
Ratio 10 = Administrative expenses and asset depreciation / Total asset.
Ratio 11 = Investment / Total resources.
Ratio 12 = Own resources / Total asset.
Ratio 13 = Mediation margin / Total asset.
Ratio 14 = Operating margin / Total asset.
Ratio 15 = Operating margin / Number of personnel.
Ratio 16 = Operating margin / Total resources.
Ratio 17 = Operating income / Total Resources.

([3]) Galicia is a region in the north-west of Spain whose administrative capital is Santiago de Compostela.

4 — Forecasting new mergers: The model outlined

4.1 — Introduction: objective and methodology

Due to the interest shown in making Galicia savings banks competitive at a national scale, we have proposed the formulation of a predictive model that will serve to forecast the results of a merger between three small savings banks into one entity covering the whole of southern Galicia, or even the fusion of all Galicia savings banks into one regional savings bank.

To this effect, we are going to use the technique of ratios, obtained from the annual reports and end of year accounting exercises of those entities involved, as fundamental variables to predict the results, beneficial or otherwise of a merger. The relative usefulness of such a technique, in evaluating the economic advantages of mergers has already been assessed (4).

The basic objective of this project is to discover if Galicia savings banks are in a strong enough condition to be merged and if so to evaluate possible alternatives.

For this, the methodology that we have used consists of the formulation of an econometric logistic regression model, capable of predicting the success or failure of a savings bank merger, and carrying out this analysis from two different perspectives:

Firstly, using accounting data from the period 1990-1995, an individual study of each financial entity in an attempt to discover their predisposition to a merger. In order to evaluate this, economic data relating to mergers of Spanish savings banks between the years 1990-1992, was employed to try to establish the relationships between different variables, qualitative and quantitative, and predict the probability of a merger being successful.

Secondly, using a compilation of data to predict the result of a specific merger.

Once the models have been formulated, they will be applied to Galicia savings banks, considering various merger possibilities.

4.2 — The model

Given the type of analysis, in which it is proposed to obtain the value of the absolute variable merger result: success or failure, we have opted for a regression model which we consider more suitable for this project.

If the success or failure of a merger (a criterion based on the past behaviour of accounting variables) depends on the evolution of a series of parameters in the recent past, then the most adequate econometric model to achieve our intended objective (predict the result of a merger using past accounting variables), is in our judgement the Logit Binomial, whose general form is:

$$p(y) = 1 / (1 + e^{-x\beta})$$

(4) Pisón, Buch & Fernandez-Feijóo (1996).

where:

$p(y)$ = dichotomy variable that indicates the success or failure;
$x\beta = \beta_0 + \beta_1 R1 + \beta_2 R2 + ... + \beta_{17} R17 + \beta_{18} N + \beta_{19} Dep + \beta_{20} Cre + \beta_{21} Hom + \beta_{22} Type;$
N = Number of entities involved in merger;
Dep = Size according to deposits;
Cre = Size according to loans;
Hom = Homogeneity of the merger;
Type = Bank of Spain interest rate.

From this we will be able to predict the probability of success of possible mergers of savings banks in Galicia (5).

4.2.1 — Process

The first step was to qualify the mergers of Spanish savings banks occurring between 1990 and 1992 as successes or failures. To do this we selected those ratios that we considered as being the most significant with regard to the results of the mergers (6) and which helped explain those results in the years after the mergers took place and also explain the ten processes on which we have worked. The following ratios were used:

Ratio 6 = Net profit / Total resources;
Ratio 9 = Financial costs;
Ratio 10 = Gen. admin. costs and amort. / Total assets;
Ratio 11 = Investment / Total resources;
Ratio 13 = Intermediation margin / Total assets;
Ratio 14 = Operating margin / Total assets;
Ratio 15 = Operating margin / No. employees.

Using this information, an evaluation was undertaken, taking into account two fundamental considerations, both concerning values after the mergers in the three year period under study.

Firstly, and of major significance, the success or failure of the merger itself. To do this the evolution of the ratio values were compared to their values of the previous period in order to detect any improvement.

Secondly, evaluating the success or failure, with relation to CECA, of each of the mergers and comparing the merger ratios to those of the Federation on a yearly basis.

(5) We wish to make clear that in this study the qualification of success or failure is applied in a purely economic context using accounting data published by the financial entities concerned.

(6) See our previously mentioned study in which of the 17 ratios analysed, only those that were considered significant to the merger process were employed.

When applying these criteria and with respect to the evolution of the selected ratios we have weighted each ratio (from 0 to 3) according to year and merger in the following manner:

If the ratios of the merged entities had improved and their performance was better than that of CECA, then this merger was considered to be successful and was given the maximum weighting of 3;

If the merger ratios had worsened with respect to the previous year but were still better than those of CECA a weighting of 1 was applied;

If the merger ratios had improved with respect to the previous year but were worse than those of CECA, the evolution could be considered as positive and a weighting of 2 was applied;

If the merger ratios had worsened and furthermore were worse than those of CECA, the applied weight was 0.

Once the points were calculated, they were added together and then divided by the maximum value (3), by the number of ratios (7), and by the number of years minus one (4 or 5) that the new entity had been in operation. The first year after a merger is largely insignificant as mergers can occur in any month of a given year and therefore the economic data for that year are the result of mergers of the respective entity's balances and normally a year is required to allow the new entity to adjust to it's new situation.

If the result was equal to or greater than 0.50, the merger was considered to be successful but if it was smaller than 0.50 it was considered to be a failure.

This analysis gave the following results:

Ratios	Caja España					C. A. M. P. Extremadura					UniCaja				
	91	92	93	94	95	91	92	93	94	95	91	92	93	94	95
6	3	0	0	0	0	1	1	3	1	3	–	0	2	2	2
9	3	0	2	0	0	1	1	3	3	3	–	3	3	3	3
10	1	3	0	0	2	0	3	0	0	0	–	0	0	2	2
11	2	2	0	3	0	2	0	0	2	2	–	0	3	0	0
13	3	0	2	0	2	1	1	3	1	3	–	1	3	3	1
14	3	0	0	0	2	1	1	3	1	3	–	1	3	3	3
15	3	1	0	0	2	1	1	3	0	3	–	0	2	2	3

Ratios	M. P. C. A. Huelva y Sevilla					BanCaja					C. a. Vitoria y Alava				
	91	92	93	94	95	91	92	93	94	95	91	92	93	94	95
6	0	2	2	2	3	–	3	0	0	3	2	3	3	1	1
9	3	3	1	3	1	–	3	1	3	1	3	3	3	3	1
10	0	0	2	0	2	–	2	2	2	0	0	3	0	3	3
11	3	0	2	3	3	–	1	3	3	1	2	0	2	2	0
13	3	3	3	3	1	–	3	1	3	1	1	3	3	1	3
14	3	0	3	3	1	–	3	1	3	1	0	3	1	1	3
15	2	2	2	3	1	–	2	0	3	0	1	3	1	3	3

Ratios	C. A. Salamanca y Soria					C. A. P. Barcelona					Bilbao Bizkaia Kutxa					C. A. M. P. Gipuzkoa y S. Sebastián				
	91	92	93	94	95	91	92	93	94	95	91	92	93	94	95	91	92	93	94	95
6	–	0	0	3	3	2	2	2	0	0	3	3	3	3	1	3	3	1	1	3
9	–	0	2	3	0	2	2	2	0	2	0	3	1	3	0	1	3	1	3	0
10	–	1	1	1	3	1	1	3	1	1	1	1	3	3	3	0	3	0	3	3
11	2	0	2	0	2	0	2	0	2	3	3	0	0	0	0	2	3	3	1	0
13	–	0	2	3	0	2	2	2	0	2	1	3	1	0	0	1	1	3	1	1
14	–	0	3	3	1	2	2	2	0	2	1	1	1	1	1	0	3	1	3	1
15	–	0	2	3	1	2	2	2	0	2	1	3	3	1	1	1	3	1	3	1

Using this information we can classify the following entities as:

Successful:

Caja de Ahorros y Monte de Piedad de Extremadura (0.52);
UniCaja (0.60);
Monte de Piedad y Caja de Ahorros de Huelva y Sevilla (0.66);
Caja de Ahorros de Valencia, Castellón y Alicante (0.58);
Caja de Ahorros de Vitoria y Alava (0.65);
Caja de Ahorros y Pensiones de Barcelona (0.50);
Bilbao Bizkaia Kutxa (0.51);
Caja de Ahorros y Monte de Piedad de Gipuzkoa y San Sebastián (0.58);

Failures:

Caja España de Inversiones, Caja de Ahorros y Monte de Piedad (0.37);
Caja de Ahorros de Salamanca y Soria (0.46).

A second step consisted in incorporating other variables of a non-economic nature but relevant for a complete analysis of the merger process. These variables are:

Homogeneity of the entities to be merged. Here the possibility of dominance of one of the entities to be merged is considered. The classification made by ICAC has been used with the results on table 3;

Size, refering not only to client's deposits but also to loans and investments. The classification has three categories; small, medium and large based upon CECA's valuation the of entities wealth (current balance divided by number of banks). A medium sized entity is one whose deposits or investments fall within the range + 20 % of the mean value;

Bank of Spain's interest rate, which while being important has little relevancy in the model as it affects all entities in the same way and therefore was not taken into consideration;

Number of entities to be merged, that is, the number of entities that agreed to merge.

TABLE 3

Entity	Own ress.	Merger	Valuation
C. A. M. P. León	28.099	Caja España	Homogeneous.
C. A. M. P. Palencia	5.701		
C. A. P. Valladolid	5.400		
C. A. Pop. Valladolid	5.042		
C. A. P. Zamora	6.259		
C. A. M. P. Cáceres	2.072	C. A. M. P. Extremadura	Homogeneous.
C. A. Plasencia	1.365		

Entity	Own ress.	Merger	Valuation
M. P. C. A. Almería	4.259	UniCaja	Heterogeneous.
C. A. Ronda	16.504		
C. A. P. Antequera	5.069		
C. A. M. P. Cádiz	3.169		
C. A. P. Málaga	4.259		
C. A. M. P. Huelva	1.817	M. P. C. A. Huelva y Sevilla	Heterogeneous.
M.P.C.A. Sevilla	7.304		
C. A. Valencia	27.029	BanCaja	Heterogeneous.
C. A. M. P. Segorbe	743		
C. A. M. P. Castellón	9.687		
C. A. Sagunto	1.567		
C. A. M. P. Vitoria	3.826	C. A. Vitoria y Alava	Homogeneous.
C.P.A. Alava	6.846		
C. A. M. P. Salamanca	16.741	C. A. Salamanca y Soria	Heterogeneous.
C. G. A. P. P. Soria	3.786		
C. A. M. P. Barcelona	45.374	C. A. P. Barcelona	Heterogeneous.
C. P. A. Cataluña Baleares	136.319		
C. A. M. P. M. Bilbao	16.840	Bilbao Bizkaia Kutxa	Homogeneous.
C. A. Vizcaína	24.720		
C. A. M. P. San Sebastián	7.675	C. A. M. P. Gipuzkoa y San Sebastián.	Heterogeneous.
C. A. P. Guipuzcoa	28.285		

4.3 — Obtaining the models

As previously mentioned, it was considered appropriate to apply a twin analysis of the available data, firstly to assess the individual entity's predisposition towards a merger and secondly to carry out an analysis using a compilation of data to try to evaluate possible alternatives to a merger (7).

The reasons for this twin analysis are to ensure a solid base, taking into account that it is not sufficient to know that an entity is in favour or not of a merger but it is also necessary to demonstrate that such a merger is feasible from an economic and financial aspect, bearing in mind the possible components of the union.

In this way, the resulting models have been designated A Predictive Model of the Predisposition of Savings Banks to Possible Mergers and A Predictive Model of Merger Results.

(7) We are considered the data independently, over a long time period to ascertain the continuity of merger results and consequently an entity's predisposition towards a merger.

4.3.1 — A predictive model of the predisposition of savings banks to possible mergers

To discover the most relevant variables that most accurately explain the model, we used a series of statistical filters on the data in the following way:

a) Firstly, we eliminated those variables that were not individually related to the explained variable. In this way we selected ratios 1, 3, 5, 6, 9, 10, 11, 12, 13, 15, the number of components in the merger and three category variables: volume of loans classified in three levels: smell, medium and large), volume of deposits (classified in the same way) and homogeneity. The criterion for this selection was based upon the degree of importance of the specific test applied to each variable being less than 5 % bilateral (annex 1);

b) Secondly, the correlation matrix (annex 2) indicated the presence of a high correlation between many variable pairs which led us to carry out a Principal Component Analysis in order to discover which variables to introduce into the equation; doing a VARIMAX rotation of the five factors that together accounted for 86.1 % of the total data inertia (table 4).

TABLE 4

Factorial rotation counterfoil — VARIMAX

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
R6	,926 33	–,134 05	,004 78	,211 06	–,024 52
R5	,923 69	–,158 48	,060 58	,261 80	–,052 44
R4	,795 10	–,157 34	–,124 79	–,486 18	–,073 45
R1	,710 20	,011 21	,470 75	,350 75	–,154 60
R14	,564 60	–,436 74	,418 19	,215 48	,421 94
R16	,556 44	–,396 48	,441 28	,210 16	,451 44
R8	–,137 14	,924 05	,038 41	–,082 49	,064 35
R9	–,265 26	,857 85	,177 07	–,038 82	–,348 68
R7	–,081 41	,775 36	,162 36	,056 92	,135 51
R13	,339 44	–,683 51	–,255 13	–,022 99	,546 48
R17	,176 93	,510 24	–,414 46	,134 60	,410 23
R15	,243 09	–,035 32	,891 24	,284 16	,117 96
R2	–,126 90	,292 65	,832 97	,114 71	–,178 50
R10	–,155 54	–,407 19	–,738 87	–,230 30	,259 01
R3	,185 49	–,004 26	,216 68	,940 87	–,076 10
R12	,169 54	–,022 36	,200 23	,940 28	–,031 86
R11	–,239 22	,053 43	–,107 96	–,136 90	,630 47

From the results we deduced the following meanings for each of the factors mentioned above:

Factor 1 represents profitability in a broad sense by including the relationship net profit / No. of employees, but related to the concept of efficiency and admissible in this group owing to it's consideration of net profit;
Factor 2 groups together the concepts of mediation either from the financial costs aspect (ratios 7, 8,9) or from the point of view of operating income (ratio 17) or from a third aspect which is a synthesis of the two previous aspects and is included in ratio 13; that of mediation margin / total assets;
Factor 3 reflects operating income and operating costs (ratios 10 and 15) and a third independent one (ratio 2);
Factor 4 represents volumes of debt (ratios 3 and 12);
Factor 5, in an individualised way represents ratio 11 that could be considered as volume of financial activity, such as loan investment.

Using SPSS tools through the automatic Forward Stepwise (Wald) method, we obtained the equation that was treated as a base. Although the result is optimised from a statistical point of view, it does not gather elements that in our opinion are fundamental from an economic and financial perspective in analysing merger results. For this reason we chose to include those ratios that gave this study reliability.

The base equation is as follows:

$$p(y) = 1 / (1 + e^{-x\beta})$$

where:

$$x\beta = -0{,}1607 - 2{,}3159 \times R3 + 2{,}7309 \times R13 + 1{,}8304 \times R12 - 1{,}3583 \times N + 10{,}7917 \times DEP(2) - 3{,}0906 \times DEP(1);$$

N = No. of components in the merger;
$DEP(1)$ = dummy variable that represents the effect of having a medium volume of deposits with respect to small;
$DEP(2)$ = dummy variable that represents the effect of having a large volume of deposits with respect to small.

With this in mind we included the most significant ratio with respect to the explained variable from each of the principal components in the t-test test:

Factor 1 – ratio 6;
Factor 3 – ratio 10;
Factor 5 – ratio 11;
Factors 2 and 4 are already explained in the base model.

The final result was the following explanatory equation for the variable «result»:

$$p(y) = 1 / (1 + e^{-x\beta})$$

where:

$$x\beta = -24{,}7343 - 2{,}2128 \times R6 - 4{,}7617 \times R3 + 3{,}7996 \times R13 + 4{,}6585 \times \\ \times R12 + 0{,}2970 \times R11 + 5{,}9349 \times R10 - 4{,}6196 \times N + 9{,}0157 \times \\ \times DEP(2) - 8{,}4561 \times DEP(1).$$

Variable	β	SE	Wald	gl	Signif.	Exp(β)
DEP			6,992 6	2	0,030 3	
DEP(1)	– 8 456 1	3,210 0	6,939 4	1	0,008 4	0,000 2
DEP(2)	9,015 7	51,855 5	0,030 2	1	0,862 0	8 231,505 0
INTG	– 4,619 6	1,810 6	6,510 0	1	0,010 7	0,009 9
R10	5,934 9	3,296 4	3,241 4	1	0,071 8	377,988 7
R11	0,297 0	0,137 7	4,652 6	1	0,031 0	1,345 8
R12	4,658 5	2,158 9	4,284 0	1	0,038 5	87,222 1
R13	3,799 6	2,077 2	3,346 0	1	0,067 4	44,681 6
R3	– 4,761 7	1,927 8	6,101 1	1	0,086 2	0,008 6
R6	– 2,212 8	1,289 5	2,944 5	1	0,086 2	0,109 4
Constant	– 24,734 3	20,364 4	1,475 2	1	0,224 5	

Number of observations: 177.
– 2 Log. likelihood ratio: 34,398.
Global percentage of cases correctly classified: 95,48 (90,91 %, failures predictive value and 96,99 % successes predictive value).

We consider this result as satisfactory. The ratio with the maximum reliability was 34.398, with a confidence level of over 99.99 %. The model correctly classified 95.48 % of the cases of both categories. Five of the variables are significant with a confidence level of over 95 %, and three more with a confidence level of 90 % ([8]).

With respect to the coefficients, we emphasise the one corresponding to the variable Deposits, where the step from small to medium volumes has a negative character (predicting failure), while the step from small to large increases the probability of success by a factor of 8,231.505, albeit with little significance. Also the integrating variables, ratios 3 and 6 with high values are indicative of failure. The value of the coefficient of ratio 10 (5.9349) is significant, and its odds ratio (e^{β}) is approximately 378.

4.3.2 — A predictive model of merger results

Using the same method as with the previous model, Forward Stepwise (Wald), we obtained a first equation, which was treated as an initial reference and subsequently amended according to information acquired from the different processing of the original data. New values for the ratios were obtained via the accumulation of individual accounting values of entities before merging and

([8]) Significance was measured by Wald that contrast the null hypothesis of a zero coefficient.

maintaining the criteria used in the merger result study, taking into account the objective of the exercise which was to assess the probability of success or failure of various alternatives in mergers of Galician savings banks.

The process to obtain an equation that would be definitive in compiling all the concepts that we consider meaningful in explaining pre-merger behaviour, was accomplished using information obtained from the significance tests (t-tests and cht-squared) and correlation (matrix and factorial rotation analysis VARIMAX) (annex 3 and 4).

The result was the following:

$$p(y) = 1 / (1 + e^{-x\beta})$$

where:

$$x\beta = -50{,}0534 + 0{,}0390 \times R^* - 19{,}6177 \times R5 + 31{,}8510 \times R10.$$

Variable	β	SE	Wald	gl	Signif.	Exp(β)
R10	31,851 0	17,590 7	3,278 5	1	0,070 2	6,80E + 13
R5	− 19,617 7	10,316 2	3,616 3	1	0,057 2	0,000 0
R*	− 0,039 0	0,026 2	2,208 5	1	0,137 3	1,039 7
Constant	− 50,053 4	28,495 1	3,085 5	1	0,079 0	

$R^* = R1 \times R3 \times R6 \times R16$.

Number of observations: 63.

Statistic of the ratio of maximum verisimilitude: 13,595.

Global percentage of cases correctly classified: 93,65 (84,62 %, failures predictive value and 96,00 %, successes predictive value).

We consider this equation as valid with respect to it's predictive value, having a maximum verisimilitude ratio of 13.595 and a confidence level of over 99.99 %. The model correctly classified 93.65 % of cases.

It might be useful to interpret the sign of the coefficients in the equation corresponding to ratios 5 and 10 as they appear to contradict the expected results. However, an in-depth analysis shows them to be congruent with the criteria of this study which is to qualify a specific merger as a success or failure. Logically entities with high general expenses will be more favourable towards a merger with the intention of benefiting from synergies in the same way as entities experiencing reduced profitability prior to a merger.

5 — Application of the models to Galicia savings banks

5.1 — Application of the model of predisposition to mergers to Galicia savings bank

The model that we obtained was applied both to the three smaller savings banks and to all four Galicia savings banks to try to determine their general attitude towards possible mergers.

The analysis covered the period 1990 to 1995 in an attempt to give the results a more solid base than a study carried out over a shorter time period.

In view of the actual situation in the region (a large bank with an important presence in the north, another medium-sized bank with a strong presence in the south, and two small banks with equal presence in the south), we put forward possible alternatives bearing in mind the history and evolution of the four entities. Various theoretical combinations were rejected and two strategies wore considered: firstly, the establishment of a bipolar system formed be one existing bank in the north and another in the south, resulting from the merger of the three remaining savings banks and secondly, the union of all four entities into one savings bank for the whole region.

The first strategy ([9]) (table 5) demonstrates the strong tendency of the three banks to merge with the C. A. P. Pontevedra presenting a consistent profile over the study period.

TABLE 5

Merger disposition (in percentage) of the three saving banks in South Galicia

Entity	Year	$\Sigma \times \beta$	$P(Y = \text{Succ})$
C. A. P. de Orense	90	9,643 781 497	99,99
C. A. P. de Orense	91	5,236 525 424	99,47
C. A. P. de Orense	92	13,612 928 870	100,00
C. A. P. de Orense	93	14,420 553 750	100,00
C. A. P. de Orense	94	11,306 753 810	100,00
C. A. P. de Orense	95	11,251 699 120	100,00
C. A. P. de Pontevedra	90	13,714 452 150	100,00
C. A. P. de Pontevedra	91	16,997 875 990	100,00
C. A. P. de Pontevedra	92	22,234 601 660	100,00
C. A. P. de Pontevedra	93	22,965 484 330	100,00
C. A. P. de Pontevedra	94	18,408 845 300	100,00
C. A. P. de Pontevedra	95	13,376 281 890	100,00
C. A. M. de Vigo	90	3,444 922 182	96,91
C. A. M. de Vigo	91	2,031 943 915	88,41
C. A. M. de Vigo	92	9,972 866 515	100,00
C. A. M. de Vigo	93	20,920 127 270	100,00
C. A. M. de Vigo	94	7,992 828 166	99,97
C. A. M. de Vigo	95	5,607 402 896	99,63

If we next analyse the hypothetical merger of all four savings banks in Galicia we see (table 6) that the results of the study offer a different appearance. The two smaller savings banks (C. A. P. de Orense and C. A. P. de Pontevedra) continue to show a clearly favourable attitude towards a merger, while the second placed bank in the regional ranking (C. A. M. de Vigo) does not offer a clear response towards a possible merger, demonstrating varying dispositions over the period under study (6.99 % in 1991, 72.87 % in 1995 and reaching 100 % in 1993).

([9]) The predisposition of an entity is measured as a function of it's probability of success as an individual, which is conditioned by the number of components in a merger and, as the model predicts the probabilities of success are different for each entity (tables 4 and 5).

TABLE 6

Merger bias (in percentage) to the merger of the four Galician saving banks

Entity	Year	$\Sigma \times \beta$	$P(Y = \text{Succ})$
C. A. de Galicia	90	6,688 407 539	99,88
C. A. de Galicia	91	8,432 135 074	99,98
C. A. de Galicia	92	11,389 348 720	100,00
C. A. de Galicia	93	12,099 460 450	100,00
C. A. de Galicia	94	9,551 014 282	99,99
C. A. de Galicia	95	8,216 708 550	99,97
C. A. P. de Orense	90	5,024 181 497	99,35
C. A. P. de Orense	91	0,616 925 424	64,95
C. A. P. de Orense	92	8,993 328 872	99,99
C. A. P. de Orense	93	9,800 953 751	99,99
C. A. P. de Orense	94	6,687 153 811	99,88
C. A. P. de Orense	95	6,632 099 125	99,87
C. A. P. de Pontevedra	90	9,094 8 52 153	99,99
C. A. P. de Pontevedra	91	12,378 275 990	100,00
C. A. P. de Pontevedra	92	17,615 001 660	100,00
C. A. P. de Pontevedra	93	18,345 884 330	100,00
C. A. P. de Pontevedra	94	13,789 245 300	100,00
C. A. P. de Pontevedra	95	8,756 681 893	99,93
C. A. M. de Vigo	90	– 1,174 677 820	23,60
C. A. M. de Vigo	91	– 2,587 656 090	6,99
C. A. M. de Vigo	92	5,353 266 515	99,53
C. A. M. de Vigo	93	16,300 527 270	100,00
C. A. M. de Vigo	94	3,373 228 166	96,69
C. A. M. de Vigo	95	0,987 802 896	72,87

Of the two alternatives that were considered it is possible to confirm the feasibility of a fusion of the three smaller savings banks, giving rise to a single entity strongly placed in the south of the region. On the other hand a hypothetical merger of all four savings banks seems to present certain difficulties since, according to the available data, the C. A. M. P. de Vigo has no clear opinions of such a process. Moreover the two smallest entities are clearly in favour of a merger which gives rise to a third alternative i.e. to merge with the C. A. de Galicia and compete directly in those areas where the C. A. M. P. de Vigo has a strong presence.

5.2 — Application of the predictive model of merger results to Galicia savings banks

To apply this model we used as a basis data from the accounting exercises of each of the four entities in question. In order to maintain the structure of the data that was used to formulate the model it was necessary to combine the variables that the ratios are composed of in order to estimate the values of a theoretically merged entity. This process was repeated for the two aforementioned strategies i. e. a merger of three savings banks or a merger of all four savings banks.

With respect to the first strategy (table 7), the model predicted a high probability of success until 1994, while in 1995 the value contrasts to that of the previous years. It is therefore appropriate to consider such a merger as being positive unless the 1995 value continues in the future indicating a trend.

TABLE 7

Probability of success of a merger of the three southern savings bank

Entity	Year	$\Sigma \times \beta$	$P(Y = \text{Succ})$
South Galicia saving bank	90	26,72 626 160	100,00
South Galicia saving bank	91	23,45 630 690	100,00
South Galicia saving bank	92	23,70 651 520	100,00
South Galicia saving bank	93	20,79 117 640	100,00
South Galicia saving bank	94	9,21 601 991	99,99
South Galicia saving bank	95	0,19 414 132	54,84

As we can see in table 8, the second strategy demonstrates a different situation. During the first three following the merger the probability of success is high. However in the next few years there is a drastic change almost reaching a zero value in the last year of the study.

TABLE 8

Probability of success of a merger of all four Galicia savings bank

Entity	Year	$\Sigma \times \beta$	$P(Y = \text{Succ})$
One single entity in Galicia	90	15,37 324 800	100,00
One single entity in Galicia	91	15,36 672 530	100,00
One single entity in Galicia	92	3,67 636 210	97,53
One single entity in Galicia	93	– 0,66 187 477	34,03
One single entity in Galicia	94	– 2,54 654 904	7,27
One single entity in Galicia	95	– 5,72 564 139	0,33

6 — Conclusions

General economic trends has given size an important requirement if an entity is to be able to compete in increasingly aggressive markets. Moreover Spain has unavoidably had to assume it's integration into the European Union for political and economic reasons.

Applied to the Spanish financial sector, this requires a great effort as most of our entities are relatively small, more so if we focus on savings banks and many mergers have taken place, as previously mentioned in this and in previous papers.

This situation has caused us to study the possible restructuring of Galician savings banks on the basis of mergers between the existing entities and using statistical and econometric methods that seemed to us the most appropriate. Employing available economic-financial data we triad to form a sound opinion about the future strategies of the four Galician savings banks.

We are aware that the concept of a successful merger involves not only financial factors but also political and strategic factors. It is possible that an apparent negative result in terms of accounting aspects in the short term, could be compatible with a positive valuation in the middle to Long term if other aspects are taken into consideration.

We believe that the following conclusions can be drawn from this study:

That the methodology «a predictive model of the predisposition of savings banks to a merger» and «a predictive model of merger results», employing accounting data and based on recent occurrences in Spain, seems to be of use in the study of savings bank mergers;

When applying the «predictive model of the predisposition of savings banks to a merge», we observed:

- A clear interest on the part of C. A. de Galicia in forming part in a single regional savings bank; no doubt due to it's dominant role in Galicia;
- A clear interest on the part of the two smaller entities to merge, regardless of who their partners might be;
- An interest on the part of C. A. M. de Vigo to merge with the two smaller entities forming a bipolar structure in Galicia, but little interest in forming a single regional unit;

Based on this it can be stated that the four savings banks studied form three distinct groups, each with their own strategic interests and logistic management policies in accordance with their current respective situations:

- Firstly, the C. A. de Galicia, which due to it's size and position plays a dominant role and interested in strengthening it's control of newly formed entities;
- Secondly, the smaller entities (C. A. P. de Orense and C. A. P. de Pontevedra), which due to their reduced size are not in an ideal position, with respect to competitivity, to reach a size that would allow them to increase efficiency and offer more services to their clients in a medium term. Their participation in a merger offers the possibility to overcome any structural weaknesses;
- Thirdly, the C. A. M. de Vigo that is in an intermediate situation, being of an adequate size so as not to urgently need to join forces with other entities. Notwithstanding it is interested in merging with smaller entities, controlling and consolidating it's position in competitive markets;

Finally, the «predictive model of merger results» indicates that at present only one strategy is feasible, that of merging the three savings banks in the south of Galicia. The other strategy consisting of forming a single Galician savings bank does not appear viable in the light of data presented in table 5. However we must not forget that the analysis only took into account data of a purely economic nature and it might be appropriate to introduce political considerations bearing in mind the social character of this sector.

It would appear therefore, that unless there is a marked change in those trends referred to in this paper, the only viable strategy to change the current scenario in Galicia is the creation of a bipolar system, formed by an entity with a strong presence in the north (C. A. de Galicia) and by a second entity based in the south formed by the merger of the three remaining entities.

ANNEX 1

Univarieted descriptive

Variable	Medium	Standard error
R6	1,193	,700
R5	1,287	,758
R14	1,905	,640
R16	2,079	,684
R1	2,218	1,498
R10	3,048	,636
INTG	3,395	1,399
R15	3,870	2,007
R12	4,547	1,754
R13	4,951	,794
R3	5,492	2,360
R8	5,819	,815
R7	6,293	1,204
R17	13,328	1,675
R4	25,556	16,664
R9	51,873	6,205
R11	61,901	8,355
R2	174,676	67,848

N.º cases: 177.

Mean comparasion and between each variable and the dependent outcome «result» (success/failure)

Variable	T-test	Interval 95 %
R13	– 4,61	(–,687; –,274)
R14	1,55	(–,047; ,391)
R15	2,11	(,042; 1,575)
R16	1,43	(–,064; ,404)
R17	– ,06	(–,594; ,559)
R2	1,03	(–9,104; 28,895)
R3	6,45	(1,655; 3,115)
R4	– ,72	(–5,957; 2,779)
R7	– 1,31	(–,483; ,097)
R8	– ,90	(–,327; ,123)
R5	4,24	(,286; ,783)
R9	2,61	(,536; 3,936)
R6	3,41	(,170; ,637)
R1	4,42	(,716; 1,905)
R10	– 6,14	(–,817; –,419)
R12	4,55	(,745;1,887)
R11	– 5,04	(–10,841; –4,678)
N.º entities	3,68	(,401; 1,329)

	Chi-2
Loans	27,79827
Deposits	34,19159
Homogeneity	14,95057

ANEXO 2

Correlation matrix

	R1	R10	R11	R12	R13	R14	R15
R1	1,000 00						
R10	– ,515 32	1,000 00					
R11	– ,220 29	,354 56	1,000 00				
R12	,544 44	– ,367 68	– ,144 20	1,000 00			
R13	,017 08	,609 10	,192 73	– ,008 56	1,000 00		
R14	,526 10	– ,237 04	– ,124 85	,360 81	,614 38	1,000 00	
R15	,695 31	– ,675 80	– ,152 71	,471 99	– ,053 17	,611 13	1,000 00
R16	,523 41	– ,262 67	– ,099 99	,353 37	,585 80	,991 47	,631 21
R17	– ,115 63	,083 23	,039 21	– ,019 18	,010 77	– ,051 21	– ,190 08
R2	,420 27	– ,684 70	– ,091 65	,271 12	– ,540 83	,014 09	,754 23
R3	,580 22	– ,406 97	– ,199 79	,969 30	– ,055 74	,351 85	,498 10
R4	,340 11	,156 35	– ,104 68	– ,299 58	,379 54	,300 82	– ,050 63
R5	,822 16	– ,174 77	– ,192 32	,428 20	,365 60	,614 51	,339 24
R6	,748 22	– ,124 27	– ,153 26	,376 27	,379 20	,580 45	,277 73
R7	,021 58	– ,326 03	,071 54	,075 20	– ,468 75	– ,254 18	,105 60
R8	– ,129 63	– ,343 16	,113 05	– ,104 80	– ,623 31	– ,429 14	– ,058 01
R9	– ,070 18	– ,549 28	– ,106 69	– ,047 14	– ,912 95	– ,581 07	– ,006 97

	R16	R17	R2	R3	R4	R5	R6	R7	R8	R9
R16	1,000 00									
R17	– ,027 97	1,000 00								
R2	,040 11	– ,225 01	1,000 00							
R3	,351 63	,004 26	,286 20	1,000 00						
R4	,285 48	– ,004 14	– ,250 91	– ,298 17	1,000 00					
R5	,600 21	– ,003 05	– ,059 79	,438 36	,618 18	1,000 00				
R6	,567 30	,028 19	– ,096 63	,373 43	,643 55	,962 91	1,000 00			
R7	– ,222 59	,200 42	,325 72	,063 51	– ,232 38	– ,171 12	– ,157 25	1,000 00		
R8	– ,383 27	,380 00	,262 14	– ,094 61	– ,234 00	– ,292 12	– ,268 40	,680 79	1,000 00	
R9	– ,557 79	,151 12	,461 30	– ,025 74	– ,330 13	– ,359 81	– ,355 41	611 35	,848 64	1,000 00

Rodated factor matrix (VARIMAX)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
R6	,926 33	– ,134 05	,004 78	,211 06	– ,024 52
R5	,923 69	– ,158 48	,060 58	,261 80	– ,052 44
R4	,795 10	– ,157 34	– ,124 79	– ,486 18	– ,073 45
R1	,710 20	,011 21	,470 75	,350 75	– ,154 60
R14	,564 60	– ,436 74	,418 19	,215 48	,421 94
R16	,556 44	– ,396 48	,441 28	,210 16	,451 44
R8	– ,137 14	,924 05	,038 41	– ,082 49	,064 35
R9	– ,265 26	,857 85	,177 07	– ,038 82	– ,348 68
R7	– ,081 41	,775 36	,162 36	,056 92	,135 51
R13	,339 44	– ,683 51	-,255 13	– ,022 99	,546 48
R17	,176 93	,510 24	-,414 46	,134 60	,410 23
R15	,243 09	– ,035 32	,891 24	,284 16	,117 96
R2	– ,126 90	,292 65	,832 97	,114 71	– ,178 50
R10	– ,155 54	– ,407 19	– ,738 87	– 230 30	,259 01
R3	,185 49	– ,004 26	,216 68	,940 87	– ,076 10
R12	,169 54	– ,022 36	,200 23	,940 28	– ,031 86
R11	– ,239 22	,053 43	– ,107 96	– ,136 90	,630 47

ANNEX 3

Univarieted descriptive

Variable	Medium	Standard error
Entities number	2,84127	1,27262
R1	2,09460	1,29771
R10	3,34492	3,06165
R11	62,27730	5,98132
R12	5,72683	7,75070
R13	5,26302	4,86658
R15	3,81556	2,17180
R16	1,87190	,81408
R2	187,69603	72,52978
R3	5,64794	1,87054
R4	20,76587	14,19161
R6	1,05937	,62434
R17	11,12603	1,09944
R14	1,91825	1,94801
R5	1,12333	,66562
R7	6,29937	,81834
R8	5,96254	,77321
R9	53,80556	6,31861

Mean comparasion and between each variable and the dependent outcome «result» (success/failure)

Variable	T-test	Signification	Interval 95 %
Entities number	1,48	,158	(–,297; 1,666)
R1	4,18	,000	(,783; 2,219)
R13	– ,55	,583	(– 3,888; 2,206)
R10	– 1,20	,233	(– 3,043; ,755)
R11	– 2,63	,011	(– 5,201; –,698)
R12	,39	,699	(– 3,915; 5,802)
R14	,50	,621	(–,916; 1,524)
R15	2,33	,024	(,133; 1,781)
R16	2,50	,015	(,122; 1,095)
R17	– 1,32	,191	(–1,130; ,231)
R2	– ,36	,719	(– 36,681; 25,517)
R3	5,18	,000	(1,555; 3,512)
R4	,94	,349	(– 4,666; 13,019)
R5	4,76	,000	(,493; 1,206)
R6	4,54	,000	(,431; 1,108)
R7	– ,70	,487	(–,546; ,266)
R8	– 1,12	,266	(–,750; ,211)
R9	– ,45	,656	(– 3,264; 2,077)

Variable	Chi-2 pearson	Signification
Deposits	,87343	,64615
Homogeneity	6,55200	,01048
Loans	11,76788	,00278

ANNEX 4

Correlation matrix

	Num.	R1	R10	R11	R12	R13	R14
Num.	1,000 00						
R1	,019 01	1,000 00					
R10	– ,023 68	– ,497 43	1,000 00				
R11	,045 27	– ,229 83	,122 79	1,000 00			
R12	– ,073 05	– ,299 50	,950 03	,040 31	1,000 00		
R13	– ,026 59	– ,400 38	,981 98	,063 33	,966 81	1,000 00	
R14	– ,029 20	– ,218 57	,881 41	– ,034 95	,922 18	,954 80	1,000 00
R15	– ,167 51	,551 91	– ,094 50	– ,225 07	,095 81	,066 21	,314 07
R16	,099 93	,387 96	– ,084 85	– ,215 97	,025 47	,094 06	,368 36
R17	– ,046 57	– ,179 90	– ,008 18	,136 84	– ,057 09	,056 21	,153 34
R2	– ,357 35	,415 96	– ,052 85	– ,167 19	,115 28	,018 14	,128 69
R3	,000 94	,423 18	,062 81	– ,094 88	,329 80	,124 30	,211 93
R4	,203 45	,527 76	– ,272 46	– ,331 75	– ,302 33	– ,238 91	– ,168 89
R5	,227 60	,847 62	– ,415 28	– ,252 17	– ,291 39	– ,344 22	– ,207 48
R6	,229 87	,839 29	– ,412 67	– ,253 51	– ,296 13	– ,343 13	– ,208 85
R7	– ,379 07	– ,120 22	– ,001 98	,060 49	,063 96	,013 30	,036 83
R8	– ,378 38	– ,179 20	– ,011 86	,078 84	,018 50	– ,004 87	,006 93
R9	– ,403 84	– ,075 02	,002 48	,018 53	,063 07	– ,087 55	– ,222 18

	R15	R16	R17	R2	R3	R4	R5
R15	1,000 00						
R16	,740 25	1,000 00					
R17	,180 61	,516 43	1,000 00				
R2	,744 53	,150 37	– ,178 48	1,000 00			
R3	,322 53	,205 44	– ,112 74	,214 13	1,000 00		
R4	,051 05	,199 19	– ,262 44	– ,100 60	– ,192 29	1,000 00	
R5	,220 57	,342 17	– ,195 82	– ,025 79	,335 34	,768 45	1,000 00
R6	,212 79	,337 60	– ,199 26	– ,031 34	,309 75	,786 43	,999 41
R7	,102 32	,017 44	,636 57	,207 05	,119 04	– ,499 29	– ,318 39
R8	,059 01	– ,010 61	,656 93	,179 24	– ,015 85	– ,483 29	– ,369 39
R9	– ,248 46	– ,706 29	– ,345 58	,327 39	,057 31	– ,310 08	– ,255 02

	R6	R7	R8	R9
R6	1,000 00			
R7	,330 00	1,000 00		
R8	,377 82	,990 71	1,000 00	
R9	,260 43	,465 61	– ,460 67	1,000 00

Mean comparation and between each variable and the dependent outcome «result» (success/failure)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
R12	,987 44	,000 05	,018 98	– ,088 91	,079 92	– ,097 88
R13	,981 42	– ,147 52	– ,006 45	,062 89	– ,007 75	– ,017 84
R10	,957 20	– ,216 10	– ,030 69	– ,067 63	– ,099 66	– ,050 63
R14	,947 38	– ,028 96	,032 51	,263 25	,137 54	,034 95
R5	– ,240 22	,857 00	– ,221 77	,160 55	– ,075 46	,325 38
R6	– ,242 48	,843 18	– ,232 15	,162 65	– ,083 63	,343 44
R1	– ,308 34	,801 08	– ,100 01	,115 11	,381 77	,185 27
R3	,279 31	,724 39	,095 73	– ,078 88	,239 94	– ,369 20
R7	,015 48	– ,043 55	,974 00	– ,102 93	,120 12	– ,102 70
R8	– ,024 30	– ,143 98	,966 92	– ,091 71	,088 99	– ,061 25
R17	– ,010 76	– ,152 88	,728 08	,629 46	– ,153 28	– ,076 97
R9	– ,043 17	– ,035 81	,340 86	– ,890 65	,186 08	– ,024 24
R16	,094 98	,267 48	,107 78	,881 16	,279 63	,131 05
R2	,027 67	,075 62	,061 35	– ,124 06	,939 39	,035 40
R15	,077 88	,252 66	,063 90	,484 46	,817 35	,058 46
NUM.	– ,025 44	,194 74	– ,381 67	,315 13	– ,452 93	– ,222 30
R11	– ,028 49	– ,133 13	,000 46	– ,001 84	– ,198 68	– ,731 29
R4	– ,209 38	,408 15	– ,400 03	,157 01	– ,174 79	,674 39

BIBLIOGRAPHY

Anuarios de Estados Contables (1984-1995), Confederación Española de Cajas de Ahorro.

BARRAL ANDRADE, R. (1975), *O Aforro e a Inversión na Galicia,* Editorial SEPT, Santiago de Compostela.

CASTAÑÓN LLAMAS, L., MARTÍNEZ COBAS, F. X., and ROJO SÁNCHEZ, J. (1995), «Sistema Financiero Galego e Desenvolvemento Económico», IDEGA, Universidad de Santiago de Compostela.

CUERVO, A., RODRÍGUEZ SÁEZ, L, PAREJO, J. A. and CALVO, A. (1995), *Manual del Sistema Financiero Español,* Ariel Economía, Madrid.

MAROTO ACÍN, J. A. (1995). «Las Cajas de Ahorro españolas: competitivas y rentables», *Cuadernos de Información Económica,* n.º 103, Octubre.

PISÓN, I., BUCH, E. and FDEZ-FEIJÓO, B. (1996), «Consecuencias actuales de la explosión de los procesos de fusión de las Cajas de Ahorro en el periodo 1990-1992», comunicación presentada al VI Congreso de ACEDE, La Coruña.

Ley de Cajas de Ahorro Gallegas, Ley 4/1996, de 31 de Mayo, Ley 31/85, del 2 de Agosto, Cajas de Ahorro, Normas Básicas sobre Organos Rectores.

21 de Marzo de 1986, num. 798/1986, Cajas de Ahorro, Desarrollo parcial de la Ley 31/1985, de 2 de Agosto, de Normas Básicas sobre Organos Rectores.

27 de Mayo de 1988, num. 596/1988, Cajas de Ahorro, Modificación del R. D. 798/1986 de 21 marzo, de desarrollo parcial de la Ley 31/1985, de 2 de Agosto, de Normas Básicas sobre Organos Rectores.